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## 5. SEPARATOR BMPS

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### **WATER QUALITY INLET**

The water quality inlet is a conventional stormwater drainage structure (catch basin) with a sump and a hood. The sump is intended to trap coarse sediment and non-floating debris. The hood is intended to prevent floating debris and floating hydrocarbons from flowing out of the catch basin. Modified catch basins are intended to intercept coarse sediments, floating debris, and floating oil.

While the modified catch basin can be used in-line in a storm drain system, it is most effective as the initial structure at the uppermost end of the drainage network. The area that drains toward the basin should be kept relatively small, since high flows can cause the mixing and re-suspension of accumulated sediment within the basin. Also, size limits on commercially available hood castings limit the size of the outlet pipe from the catch basin.

Properly maintained and cleaned, water quality inlets can help intercept the coarse sand and grit from winter deicing and the floating debris that accumulates on parking areas and streets. They can also serve as a relatively low-cost form of pretreatment for small site infiltration systems, where it is determined that fine sediment and organic debris loading is minor.

### **Planning Considerations**

The modified catch basin should be considered as a component of an overall piped drainage system. It is a relatively low cost device for intercepting coarse sediment and debris that would otherwise consume available capacity or clog the pipe network. In some instances, existing catch basins may be readily modified with sump and hood.

### **Maintenance**

Water quality inlets should be inspected three to four times annually, depending on their performance. Sediment should be removed when it accumulates within 6 inches of the bottom of the hood or at least twice a year.

## **OIL/GRIT AND OIL/WATER SEPARATORS**

### **Planning Considerations**

Oil/grit separators have several advantages:

- They are usually located underground so that they minimize use of valuable space.
- They are compatible with storm sewer systems.
- They can pretreat runoff before it is delivered to other BMPs.
- They are easily accessed for maintenance.

Disadvantages of the structures are:

- They have limited pollutant removal capability.

- They require frequent cleanings.
- They have high initial installation costs.

Oil/grit separators are installed as part of an engineered design. Water disposal can be an issue if a city stormwater sewer is not available. A typical design for an oil/grit or oil/water separator uses three chambers for treatment, and manhole access should be provided to each chamber to allow for cleaning. There are other simplified designs, but these are not recommended when fine grit or oil is a significant problem. Any oily material removed from an oil/grit separator must be disposed of as hazardous waste.

### **Maintenance**

In order to have any effectiveness for pollutant removal, oil/grit separators must have trapped sediments cleaned out regularly and frequently: at least twice a year in order to maintain their pollutant removal capabilities. Failure to clean them out on a regular basis can result in floating hydrocarbons mixing in the water column and re-suspension and loss of previously trapped material.